REMARKS

Reconsideration of this application in light of the above amendments and the following comments is courteously solicited.

The examining attorney on Page 2, paragraph 3 of his office action has rejected previously submitted claims 16-32 under 35 U.S.C. 112, first paragraph. In the opinion of the Examiner, the specification did not describe in sufficient manner as to enable one skilled in the art to which it pertains to determine how to achieve the relative density of a porous ceramic material after sintering in order to define the enlargement factor, f, as recited in the claims. Specifically, the Examiner states that there is no teaching as to how to determine the "achievable relative density after sintering". Applicants respectfully traverse the Examiner's position. Applicants attach hereto an article from the Journal of American Ceramic Society dated 1996. This article clearly describes how to determine the achievable density after sintering for a given material for different sintering parameters using a master sintering curve. The article goes on to describe how the master sintering curve may be generated. It is respectfully submitted that this article clearly establishes that one skilled in the art to which this invention pertains would know how to determine the "achievable relative density after sintering" of a porous ceramic material at the time the invention was made. Accordingly, it is submitted that

the Examiner's rejection under 35 U.S.C. 112, first paragraph has set forth in paragraph 3 on Page 2 of his office action.

With regard to the Examiner's rejection as set forth in paragraph 4 of his office action bridging Pages 2 and 3 thereof, the following should be noted. At an oral hearing held with the Examiner it was agreed that claim 16 as amended would remove this rejection. Claim 16 inadvertently contained a typographical error referring to "block" rather than "blank". This error was introduced by Applicants amendment filed in November of 2002. This typographical error has been removed and claim 16 has been amended to provide proper antecedent basis. In light of the agreement reached at the above noted oral hearing, it is submitted that the Examiner's rejection as set forth in paragraph 4 on Page 2 of his office action should be withdrawn.

The Examiner on Page 3 sets forth in paragraph 5 a rejection of claim 16 under 35 U.S.C. 112, second paragraph. This rejection was discussed at the above noted oral hearing. The Examiner believes that it is necessary to amend claim 16 to indicate in the second to the last paragraph that the dense-sintering of the porous ceramic material to obtain a structure having precise and dimensions must also recite that it obtains a density of ρ_S. Applicants do not believe that the inclusion of this recitation is necessary in order for the claim to be definite. In addition, the inclusion of such a limitation might prove to be inaccurate as the actual density

obtained after dense-sintering might not be exactly or equal to the achievable relative density for obvious reasons including experimental era, ect. Thus while the actual density would approach and be approximate to the achievable density it cannot be said to be equal thereto and accordingly, to include such a limitation in the claim is unreasonable. Clearly the process described in claim 16 is such as it is desirable to achieve an actual density which is identical to the achievable relative density after sintering. This is the goal of the process. However to include this as a claim limitation is not required in order to comply with 35 U.S.C. 112, second paragraph.

Finally, Applicants are compelled to respond to the last four lines on Page 4 of the Examiner's answer. This statement is factual. This can clearly be seen from the article attached hereto with reference to the master sintering curve. Obviously there are process differences in parameters, difference in material suppliers, etc. which would result in some minor differences in the enlargement factor, small f. Applicants statement on Page 8 of the specification is consistent. Applicants attorney's comments cited by the Examiner did not differ or contradict this statement. Clearly the nature of the materials, purity, etc. would have an effect on the achievable relative density of a material which, on its face, appears to be the same as another similar material.

In light of the foregoing, it is submitted that the claims as pending patentably define over the art of record and comply with both 35 U.S.C. 112, first and second paragraphs. An early notice of allowance is respectfully requested.

It is submitted that the claims as amended herein patentably define over the art relied on by the Examiner and early allowance of same is courteously solicited.

If any fees are required in connection with this case, it is respectfully requested that they be charged to Deposit Account No. 02-0184.

Respectfully submitted,

Frank Filser et al.

I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail in an envelope addressed to: Commissioner for Patents and Trademarks, Washington, D.C. 20231

March 3, 2003
Date of Deposit

Rachel Piscitelli
Name and Reg. No. of Person Signing

Rachel Piscitelli
Signature

March 3, 2003
Date of Signature

By _____
Gregory P. LaPointe
Attorney for Applicants
Reg. No. 28,395
Tel: (203) 777-6628
Fax: (203) 865-0297

Date: March 3, 2003

Version to show markings made to the claims

16. (Thrice amended) A process for production of an artificial tooth substitute to be fitted on a prepared dental stump comprising the steps of:

selecting a preprepared [block] blank of porous ceramic material having a relative density ρ_R and an achievable relative density ρ_S after sintering;

scanning and digitizing a three-dimensional outer and inner surface of a positive model of a skeletal structure for the artificial tooth substitute to obtain data;

determining an enlargement factor (f) for the obtained data in accordance with the following

$$f = \sqrt[3]{\frac{\rho_S}{\rho_R}}$$

where ρ_R is the relative density of [a] the preprepared blank and ρ_S is the achievable relative density after dense-sintering;

enlarging the obtained data linearly in all directions by the enlargement factor (f) thereby compensating precisely for sinter shrinkage to obtain modified data for an enlarged model;

transferring the modified data to a control unit of a processing machine;

processing [a] the blank of the preprepared porous ceramic material in the processing machine and removing material therefrom

to produce a design form of the enlarged model;

dense-sintering the design form of porous ceramic material to obtain a skeletal structure having precise end dimensions; and

facing the skeletal structure as desired to form the artificial tooth substitute.